

REMARKS/ARGUMENTS

Claims 1-26 and 32-35 are canceled, rendering their rejections moot. Claims 27 has been amended for clarity. New claims 36-41 are added. Support for claims 36-41 is provided, in part, on pages 13-17 of the original disclosure.

The Examiner rejects claim 27 under 35 U.S.C. 103(a) as being unpatentable over Fugate et al. (United States Patent number 6,525,594) in view of Tyckowski (United States Patent number 6,359,408) and Zhu et al. (United States Patent number 5,933,047). Applicants respectfully traverse these rejections for at least the following reasons.

As pointed out correctly by the Examiner, Fugate fails to teach or suggest “a logic circuit coupled to receive the output of the hot-socket circuit and an enable signal and to provide the control signal, wherein when the control signal is in a first state, the bulk of the pull-up transistor is coupled to the pad, and when the control signal is in a second state, the bulk of the pull-up transistor is coupled to the first supply voltage, and a drain-to-bulk diode of the pull-up transistor clamps a voltage received at the pad, and when the enable signal is in an enable state, the bulk of the pull-up device is coupled to the first supply voltage”, as recited in part, in claim 27. Applicants submit that contrary to the Examiner’s assertions, Tyckowski and/or Zhu also fail to disclose “a logic circuit... and a drain-to-bulk diode of the pull-up transistor clamps a voltage received at the pad...”, as recited, in part, in claim 27.

In making this assertion, the Examiner refers to logic circuit 29 and comparator 27 of Figure 1 of Tyckowski. However, logic circuit 29 performs a logical AND operation, and comparator 27 performs a comparison operation between the signals it receives. There is no disclosure, whatsoever, in Tyckowski of a “logic block” that can “provide the control signal” that when placed “in a second state” can cause “drain-to-bulk diode of the pull-up transistor clamps a voltage received at the pad”. In other words, neither one of the block 29 and 27 can cause the drain-to-bulk diode of the pull-up transistor 22 of Fugate to clamp a voltage received at output node Vo of Fugate.

Furthermore, there is no motivation to combine Fugate with Tyckowski. Fugate is directed at preventing the backgate of a transistor from dropping below a particular voltage:

“The circuit includes: a transistor 22; and a switch 32 coupled to a backgate of the transistor 22 for switching between a power supply node and current-path node of the transistor 22 to prevent a voltage on the backgate from dropping below the voltage on the current-path node.” (Abstract)

Tyckowski, on the other hand, is directed at a circuit for detecting objects in a vehicle:

“A vehicle closure member has a low cost object detection circuit, which utilizes a number of simple circuit elements. Essentially, a present characteristic of the vehicle is compared to a past state characteristic. The difference between those two values is taken and compared to a limit. If the limit is exceeded then an object detection is indicated. Since the detection is based upon actual readings the circuit is adapted to individual system dynamics. The present invention utilizes a pair of low pass filters, a summing amplifier and a comparator along with one threshold circuit to achieve this function. The complete circuit utilizes a second threshold consideration along with an AND gate. In total, a very low cost control circuit which provides very accurate results is provided.” (Abstract)

Applicants submit that rejections of obviousness cannot be sustained by mere conclusory statements. Instead, there must be some articulated reasoning with rational underpinnings to support the legal conclusion of obviousness. The Examiner’s statements that:

“It would have been obvious to one of ordinary skilled in the art to add Tyckowski’s logic gate 29 to couple to the output of Fugate et al.’s comparator 34 for the purpose of disabling the switching function when not needed...” is conclusory and is simply based on the existence of the two elements in two separate references.

Furthermore, adding the logic gates 29 and 27 of Tyckowski to Figure 2 of Fugate may render Fugate’s circuit inoperative and destroy its intended functionality. As was pointed out by Applicants before, if the comparator of Tyckowski were to be used in place of the switch

of Fugate, in the manner suggested by the Examiner, and the two inputs to the comparator were always held high, the comparator would never change state. This would result in a circuit that neither Fugate et al. nor Tyckowski contemplate or suggest.

Moreover, even combining Fugate and Tyckowski, in the manner suggested by the Examiner, fails to teach or suggest "...when the control signal is in a second state,.... a drain-to-bulk diode of the pull-up transistor clamps a voltage received at the pad....", as recited in part, in claim 27. The Court of Appeals for the Federal Circuit has held that:

"It is difficult but necessary that the decision maker forget what he or she has been taught...about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed Cir. 1983).

Citing Zhu, the Examiner states:

"Zhu et al.'s figure 4 shows an integrated switch circuit (P3, P4, 102). It would have been obvious to one having ordinary skill in the art to use Zhu et al.'s integrated switch circuit for Fugate et al.'s switch 32 for the purpose of saving space."

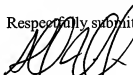
Fugate, even when taken in combination with Tyckowski and Zhu fails to teach or suggest "a logic circuit coupled to receive the output of the hot-socket circuit and an enable signal and to provide the control signal, wherein when the control signal is in a first state, the bulk of the pull-up transistor is coupled to the pad, and when the control signal is in a second state, the bulk of the pull-up transistor is coupled to the first supply voltage, and a drain-to-bulk diode of the pull-up transistor clamps a voltage received at the pad, and when the enable signal is in an enable state, the bulk of the pull-up device is coupled to the first supply voltage, and when

the enable signal is in a disable state, the bulk of the pull-up device is coupled to the higher voltage of the pad or the first supply voltage”, as recited, in part in claim 27.

Claim 27 is thus allowable for at least the above reasons. Claims 28-31 are dependent on claim 27 and are thus allowable for at least the same reason as is claim 27. Claim 36-41 are allowable for at least the same reasons as claim 27.

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal notice of allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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